Amendments to the Specification

Please delete the paragraph beginning at page 20, line 4, which starts with "Carbon dioxide," and replace it with the following amended paragraph:

Carbon dioxide, present in many producing formations, has been shown to be an effective trigger for certain formulations. This provides for indirect delivery of the trigger by the reversal of pressure at the time of production. During drilling, completion, stimulation, and workover operations, the pressure is usually in the radially out direction, forcing fluids out from the wellbore and pushing ~~fomration~~ formation fluids away form the borehole. Production begins with a reversal of the pressure differential, inducing formation fluids to flow into the well bore. Fluids ~~inadvertantly~~inadvertently or purposefully left ~~into~~ in the well bore become more exposed to the formation fluids, very often including CO_2. In contact with an aqueous phase, CO_2 reacts with water to form carbonic acid H_2CO_3, a mild acid, but sufficient to lower the pH of fluids to the bicarbonate buffer point determined by the environment.

Please delete the paragraph beginning at page 20, line 14, which starts with "Also provided," and replace it with the following amended paragraph:

Also provided by the present invention is a method of degrading filter cake. The method comprises formulating a fluid capable of making filter cakes and comprising a polymeric viscosifier or fluid loss control agent and an inactivated enzyme. An ~~imporatnt~~ important example is a drilling fluid, where filter cake formation is an essential feature. The fluid is introduced into a downhole environment such that a filter cake containing the polymeric viscosifier or fluid loss control agent and the inactivated enzyme is formed. The fluid may be displaced from the well at ~~the~~ that point, leaving the solid filter cake pressed into the surface of the well bore. A triggering signal is applied to the filter cake, the triggering signal being sufficient to reactivate the inactivated enzyme to give a reactivated enzyme. The reactivated enzyme is capable of selectively degrading the polymeric viscosifier or fluid loss control agent such that the filter cake at least partially disintegrates, allowing fluid to pass through the previously impermeable cake. CO_2 from the formation provides an especially useful route for decomposition of filter cakes where externally applied breakers such as concentrated mineral acids or oxidizers cannot be used, or where no external wash can be applied due to, for example, mechanical failure, preventing even application of the intended trigger signal.

Further provided by the present invention is a method of eliminating a contaminant from a drilling fluid or subterranean formation. According to certain embodiments, a fluid is formulated that comprises an inactivated contaminant-destroying agent. The method includes introducing the fluid into a downhole environment containing a predetermined contaminant that is a substrate capable of being degraded or destroyed by the agent under degradation promoting conditions, and then applying a triggering signal to the fluid. The optimal signal is the appearance of the contaminant, such as the lowering of pH by the introduction of hydrogen sulfide. The triggering signal then reactivates the inactivated agent to allow it to degrade the contaminant. As it often takes more than an hour for fluids to circulate from the bottom of a well to the top, and fluids are often left standing statically in the well, such a contaminant-triggered response provides for an automatic response, using materials that would otherwise be consumed by side reactions or destroy other fluid components if active in the fluid. The method may also include dislodging a piece of drilling equipment from an at least partially disintegrated filter cake.

Please delete the paragraph beginning at page 46, line 23, which starts with "Molded starch-polymer," and replace it with the following amended paragraph:

Molded starch-polymer components containing encapsulated enzyme for use in down-hole and surface oil field applications could provide means of their decomposition in response to changes in well bore conditions or application of a chemical signal. For example, a starch-polymer containing encapsulated enzyme could be molded into a ~~Perf~~ perforation ("perf") gun holder for use in constricted well bores where recovery after perforation may be impossible. Unretrieved guns physically interfere with many production operations, and a polymer that degrades upon prolonged exposure to CO_2 may remove such impediment.

Please delete the paragraph beginning at page 47, line 14, which starts with "Molded starch-polymer," and replace it with the following amended paragraph:

Molded starch-polymer components containing encapsulated enzyme molded into flakes or granules for use as a bridging agent in high pH drilling fluids or ~~lfluid~~fluid loss control pills. These particles would be stable at high pH, but destroyed by weak acid at low temperature or self-destructing by CO_2 exposure, opening up producing rock in zones not reached by an applied external breaker.